# Adheſions, or Accretions

OF THE

# LUNGS to the PLEURA.

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# Adheſions, or Accretions

OF THE

# LUNGS to the PLEURA,

AND THEIR

# EFFECTS on RESPIRATION conſidered,

BOTH WITH

Reſpect to THEORY and PRACTICE,

IN A

# LETTER

To Dr. GEORGE BAKER,

Fellow of the Royal College of Phyſicians in London, and F. R. S.

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A

# LETTER, &c.

I HAVE often wiſhed, learned Sir, that a greater number, in our profeſſion, of ſuch as have been for a conſiderable time engaged in extenſive practice, would leave behind them ſome marks of a commendable zeal to improve their art for the good of mankind, than at preſent do. I mean not that they ſhould publiſh ſyſtems or large treatiſes. This would be requiring too much. And perhaps we have too many of thoſe already. But methinks there are very few practitioners of large experience, who have not ob-

ſerved ſeveral things within their own ſphere, worthy of being communicated to the public, which are not to be met with in books moſt commonly known, or not ſet forth ſo clearly and fully as they ought to be; and which might be drawn up for the preſs with no very great labour. Medicine, like other arts, will always be capable of further improvement. And this is at leaſt one of the moſt certain and ſpeedy ways of improving it.

Our late great phyſician, the celebrated MEAD, hath left us a ſhining example of this public-ſpirited, and truly charitable diſpoſition. Very few phyſicians ever were engaged, for ſo many years together, in ſo general, and ſo laborious a practice. Yet he could find leiſure from time to time to publiſh, and republiſh with improvements, elaborate and uſeful treatiſes, both theoretical and practical: And at length crowned the whole, by printing,

printing, for the good of poſterity, his highly valuable *Monita & Præcepta Medica.*

Upon a principle of this kind, however crampt both in ability and opportunities, I ventured above twenty years ago to increaſe the number of authors in our profeſſion; and have publiſhed, at different times, ſeveral ſmall tracts on ſuch parts thereof as I was beſt acquainted with; by the publication of which I apprehended it was moſt in my power to be uſeful to ſociety. My Eſſays having been well received both at home and abroad, and, which I value myſelf not a little upon, in a particular manner approved by you, I go on with the greater chearfulneſs in the ſame route; and ſend you my thoughts on a ſubject neither trite, nor unperplexed with controverſy; a ſubject which in the courſe of my reading I have not found ſo cloſely canvaſſed as I think its

importance deſerves. I wiſh my manner of handling it may pleaſe you as well as my other Tracts have done. I can aſſure you pains and attention have not been wanting on my ſide. Give me leave then, Sir, without any farther preamble or apology, to proceed to my purpoſe.

There are two oppoſite opinions amongſt Phyſicians concerning the effects which Adheſions or Accretions of the Lungs to the *Pleura*, ſo often found on opening dead bodies, may have in Reſpiration. The one, at the head of which we ſhall place the late celebrated *Boerhaave*, maintains that under certain circumſtances they create *Dyſpnæa* or *Aſthma*, to wit, if they are broad, and join together large areas of the ſurfaces of the lungs and pleura. The contrary doctrine is held by his illuſtrious ſcholar, the great phyſiologiſt of our times *Baron Haller*; whoſe authority in a point of this kind is not leſs to be regarded;

garded; as he has laboured ſo aſſiduouſly and ſucceſsfully in Anatomy, and the animal œconomy; and has made ſo many, and ſo important improvements on his maſter's ſyſtem. He denies that any ſuch adheſions can in the leaſt contribute to impair reſpiration. See his *Elementa Phyſiologiæ humanæ*, Vol. 3. p. 132.

It were to be wiſhed that this controverſy could be clearly and fully decided, as it concerns practice more than one may at firſt view imagine. Suppoſe, for example, we are treating a perſon labouring under a difficulty of breathing, which obſtinately reſiſts the moſt powerful remedies in common practice, if ſuch accretions, as we are conſidering, can be nowiſe inſtrumental in creating, or aggravating this diſeaſe, in that caſe we are to pay no regard to them at all; nor trouble ourſelves whether they exiſt or not; but direct our curative views quite another way. On the other hand, if they ſometimes

times create, or even increaſe and heighten dyſpnæa in co-operation with other cauſes, then we muſt go on with more circumſpection; and not inſiſt too obſtinately and vehemently upon remedies directed againſt other ſuppoſed cauſes of the urgent ſymptoms, leſt, while we are combating non-entities, we ſhould harraſs our patient, not only unprofitably, but to his detriment: and we ought to join ſometimes with other remedies ſome means calculated againſt the bad effects of ſuch accretions, if means of this kind are to be found.

I am far from preſuming to ſtand Umpire between two ſuch great Names; but only propoſe in this paper to ſet forth the arguments on both ſides, in the faireſt and moſt impartial manner, leaving you, Sir, and the reader, to judge for yourſelves, and ſhall conclude with ſome practical inferences, which may ſeem fairly deducible

deducible from what is previouſly laid down.

*Baron Haller* in the above cited place of his juſtly admired Elements, after having fully ſhown from experiments and reaſon that in the ſound living human body there is no elaſtic air, of the nature of our Atmoſphere, within the Cavity of the *Thorax*, interpoſed between the lungs and internal ſurface of the *Pleura*, draws the following concluſion, " That by the converſe of this propoſition, as air, when " it gets between the Lungs and *Pleura*, " ſuppoſe from penetrating wounds of " the *Thorax*, is hurtful to reſpiration, by " a parity of reaſon the adheſion of that " *Viſcus* to the *Pleura* is not in the leaſt " detrimental to it, becauſe it excludes all " interpoſition of air ; and does not permit " the Lungs to recede from the *Pleura*. " It hath been obſerved above (to wit, " page 121 and 122 of the ſame volume) " that ſuch adheſions are extremely frequent

" quent in grown-up perſons. In the " *Dorcas*, (Antilope) a ſwift animal, the " Lungs were found adhering to the " *Pleura* by the Paris Academicians. And " like inſtances have been met with, and " are recorded by many authors of the beſt " credit, (who are cited in the note) in " the bodies of malefactors, that were " executed, and others, who immediately " before their death breathed freely and " well: inſomuch that it has been long " the opinion of ſeveral celebrated prac- " titioners, (whoſe names are likwiſe ſet " down at the bottom of the page) that " ſuch adheſions are entirely harmleſs." Thus far that illuſtrious author.

The other opinion, beſides ſtill keeping in view that ſuch adheſions are often found in aſthmatic bodies, is ſupported chiefly by reaſonings drawn from the nature of reſpiration, and from the ſtructure and ſituation of the parts immediately concerned in that function. The great perſon, whom we have

have reckoned its principal patron, in his Inſtitutions of Medicine, paragraph 835, ſpecifies " broad accretions of the lungs " to the *Pleura* as one of the many cauſes " of *Dyſpnœa* or *Aſthma*." And in his prelections, publiſhed by *Haller*, explaining this paſſage, he briefly ſays, " in this caſe, " while the *Thorax* is enlarging (*i. e.* dur- " ing inſpiration) the lungs cannot de- " ſcend, and follow the diaphragm; " whence an incurable difficulty of " breathing ariſes." And in his public lectures on the diſeaſes of the nerves, very lately printed, there is the following paſſage. " The reaſon why the lungs do " not grow or adhere to the *Pleura* (in a " natural ſtate) is becauſe there is then " a moiſture interpoſed betwixt them; " where that is wanting, accretions form; " and theſe patients, before their death, " labour under intolerable *Aſthma*." And this is all I can find relating to this matter in his works.

In order to do what juſtice we can to this opinion in its turn, it will be neceſſary to lay before the reader ſome things concerning reſpiration in general, in which both ſides, and I believe all intelligent phyſiologiſts are now agreed.

In inſpiration the cavity of the *Thorax* is enlarged by the ribs being pulled up towards the firſt, and at the ſame time bent outwards, while the *Sternum* is puſhed outwards and forwards, and ſomewhat upwards. This is effected chiefly by the intercoſtal muſcles, the external, at leaſt, if not likewiſe the internal. But it is alſo enlarged by the action of the diaphragm, which being rendered plainer by the conſtitution of its fleſhy fibres, makes the *Thorax* longer and deeper. And in natural and healthy reſpiration, the diaphragm contributes much more to the enlargement of the *Thorax*, than the change made on the poſition of the ribs and *Sternum*.

Its action is greater in males than in females.

In expiration the capacity of the *Thorax* is diminiſhed by the cartilages of the ribs reſtoring themſelves by their elaſticity, and reducing the ribs together with the *Sternum* to their former poſition; and by the ceſſation of the action of the diaphragm, while the muſcles of the *Abdomen*, then acting in their turn, beſides their contributing to the depreſſion of the ribs, puſh its middle part into the *Thorax*, and render it convex, thus ſhortning and encroaching on its cavity.

By this mechaniſm principally the air is alternately drawn into, and expelled out of the lungs, in healthy reſpiration.

In all the different ſtates of the *Thorax*, in all the intermediate degrees of its capacity from the greateſt enlargement to the narroweſt contraction, the Lungs

equally accommodate their volume to its cavity, by their diſtention or conſtriction, thus keeping it conſtantly and uniformly full.

There is no elaſtic air interpoſed between the ſurfaces of the lungs and *Pleura*, in a ſtate of health. Tho' this hath been much controverted of late; yet it is proved beyond all doubt by the great phyſiologiſt above named, as hath been already mentioned. The lungs and *Pleura* conſtantly remain almoſt quite contiguous to each other; there being only an unelaſtic moiſt vapour in ſmall quantity betwixt them.

Theſe things being laid down, it may be urged in favour of the opinion which we are now conſidering, that ſuppoſing there are broad cloſe adheſions, or rather accretions of the lungs to the *Pleura*, and particularly in the lower and under part of the *Thorax*, near where the action of

the diaphragm is exerciſed, in that caſe the lungs, during inſpiration, cannot deſcend ſo freely, and ſo far as if they were wholly detached. At the ſame time the diaphragm, it would appear, cannot have its full ſcope of play, becauſe there will be a leſs quantity of air drawn into the *Thorax*, the lungs not being ſo much inflated, as they are when in a free natural ſtate. And when the *Thorax* is as much enlarged as the deſcent of the lungs will permit, inſpiration breaks off; the diaphragm ceaſes to act, and exſpiration ſucceeds. But while that goes on, the diaphragm cannot be puſhed ſo freely and far into the *Thorax* as in a ſound ſtate, by the muſcles of the *Abdomen* preſſing the ſtomach and liver againſt it, becauſe the lungs being fixed to the *Pleura* muſt in ſome meaſure reſiſt its aſcent: ſo that, it would appear, the motion of that important muſcle muſt be crampt in both ſtages of breathing. Now as the diaphragm in a natural ſtate contributes more to the change

change of the capacity of the *Thorax* than all the other cauſes put together, it would ſeem almoſt certain, that when its motion both upwards and downwards is thus confined, the due facility of reſpiration muſt be proportionably clogged and impaired.

The greateſt difficulty attending this opinion ariſes from broad and cloſe adheſions of the lungs to the *Pleura* having not been ſeldom met with in bodies where reſpiration had not been obſerved to be affected at all. And particularly the argument drawn from the Antilope appears to me ſo very cogent, that if there was reaſon to believe ſuch adheſions are natural to that ſwift ſpecies of animals, I ſhould give it up as altogether untenable. But looking into Pitfield's tranſlation of the French Memoirs, (for the original is hard to come at in the country) I there find it expreſly remarked that they were found only in one Antilope out of five that were opened. They therefore may be fairly deemed morbid, and for that reaſon the

inference

inference drawn from them ſeems to loſe the principal part of its ſtrength.

But let us try what may be further offered towards ſolving, or at leaſt ſoftening this difficulty. There is moſt certainly a conſiderable latitude even in good and laudable reſpiration; and many degrees intervene between the moſt perfect kind of breathing, ſuch, for example, as is requiſite in the ſwift runner of a long race, the tumbler and the poſture-maſter; and that which may be tolerably commodious in a ſedentary life, in corpulency, or in old age; ſo that there may ſubſiſt impediments to the former without remarkably incroaching upon, or hindering the latter; and accretions of the lungs to the *Pleura* may be one ſpecies of them. There are a great many conditions neceſſary to conſtitute faultleſs reſpiration; and if one only is wanting, while all the reſt remain in high perfection, the inconvenience ariſing from that defect may be

be ſcarce, if at all perceptible. I have ſeen a ſheep, while it was dragging to ſlaughter, exert great agility, as well as ſtrength, in order to ſave itſelf, diſcovering no ſigns of confined or impaired reſpiration. When it has been killed there have appeared in its lungs, great numbers of hydatids, many of them of the ſize of ſmall cherries. And butchers inform me that this appearance is frequent. Will it thence follow that ſuch tumors are not to be numbered amongſt the cauſes of *Dyſpnœa?* See in the *Sepulchretum* of Bonetus an obſervation perfectly appoſite here; in which ſuch hydatids were the ſole cauſe of an intolerable *Dyſpnœa* in a great cardinal, which proved fatal *.

We took notice above that women uſe the diaphragm in reſpiration leſs than men. This is a moſt wiſe proviſion in nature, as it enables them during pregnancy, eſpe-

* Lib. 2. Sect. 1. Obſervat. 33. Editionis Manget.

cially

cially in its laſt months, to breathe commodiouſly, tho' the diaphragm then can ſcarce act at all, being ſo ſtrongly preſſed upwards by the diſtended uterus. It would therefore appear highly probable that accretions of the lungs to the *Pleura* are attended with much leſs inconveniency in the female, than in the male ſex.

Moreover it may be alleged that when ſuch accretions are formed very early in life, while the ribs and their cartilages are ductile and flexible, and in conſequence the *Thorax* is more eaſily dilatable by the action of the intercoſtal muſcles, their bad effects will be leſs, than when they firſt take place in advanced years, when all the parts are more ſtiff and rigid, and leſs obedient to the efforts of the moving powers. In ſuch a caſe a boy may gradually be accuſtomed to breathe as girls do, that is to ſupply the deficiency of the motion of the diaphragm by a greater riſing of the ribs and *Sternum* in inſpira-

tion; and that habit in time may become natural.

Laſtly, It may be added that they will be leſs hurtful when they are formed very ſlowly, than when brought on in a very ſhort time, as by a pleuriſy or a peripneumony. In the latter caſe the conſtitution will be as it were ſurpriſed, and greater diſturbances enſue. In the former, it will gradually accommodate itſelf to the evil, and uſe the beſt means in order to mitigate its bad conſequences, within the power of its own organiſm.

We ſhall next briefly run over ſuch obſervations recorded in the abovementioned *Sepulchretum*, as ſeem not a little to favour Boerhaave's opinion. We ſhall take notice only of thoſe, which appear highly pertinent; paſſing by many that might be adduced, were we diſpoſed to make uſe of dubious and partial arguments.

The

The firſt we ſhall mention is the caſe of a boy, who was cut off at the age of five, by an acute pulmonary diſtemper, attended with great difficulty of breathing. He had been, when in his beſt health, conſtantly, and remarkably aſthmatic upon running, or any other quick motion. His lungs were found adhering firmly to the diaphragm by the left lobe. The right auricle of the heart was larger than common; and ſtuffed with a groſs, compact, white ſubſtance, like lard. The preternatural ſtate of the auricle was, no doubt, the cauſe of his ſwooning, and his languid fluttering pulſe, a little before his death. But the *Dyſpnœa*, in my opinion, could ſcarce be occaſioned by it, even in his laſt illneſs. A polypus of the heart is much apter to create a palpitation there, than a difficulty of breathing. And much leſs, I think, ought the purſiveneſs upon quick motion, when in his uſual health, to be imputed to that cauſe. It remains then only, one would think, to aſcribe his

bad reſpiration to the adheſion of his lungs to the diaphragm *.

Under one head are ranged nine inſtances, and briefly rehearſed; in all which it would appear that adheſions of lungs to the *Pleura* were the only preternatural appearances, that could account for the *Dyſpnœa*, which proved fatal in them; as no other are noted †.

And to mention only one more, in the body of a woman, who died in her pregnancy, and was aſthmatic, the like ſtrong accretions were found; and both the lobes of the lungs were of a preternatural colour. More is not ſaid. It would appear that in this caſe likewiſe the accretions were (at leaſt in a great meaſure) the cauſe of the diſeaſe ‡.

* Lib. 2. Sect. 1. Obſervat. 61. Edit. Manget.
† Ibid. Obſervat. 64.
‡ Ibid. Obſervat. 65.

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This is the ſubſtance of what I can think of in favour of the doctrine of my ever honoured maſter: which however I have offered the more diffidently, becauſe it claſhes with the ſentiments of the other illuſtrious writer, who is ſo much my ſuperior; from whoſe elaborate works I have learned, and daily learn ſo much; who by his indefatigable and well conducted induſtry has contributed, and ſtill continues to contribute, towards the advancement of true medicine, at leaſt as much as any one perſon now living.

I proceed to offer ſome practical inferences from what hath been ſaid; which was my principal intention in drawing up this ſhort ſketch. Suppoſing then, or taking it for granted, that accretions of the lungs to the *Pleura* ſometimes create or increaſe *Dyſpnœa* or *Aſthma*, let us firſt enquire from what ſigns and appearances it may moſt probably be concluded that ſuch accretions actually exiſt in any particular

cular caſe of *Dyſpnœa* or *Aſthma* which we may have occaſion to treat. I ſay moſt probably, for I doubt whether any that are ſtrictly demonſtrative can be had. Such an enquiry however is neceſſary, that the indications of cure may be formed and proſecuted accordingly.

Before I enter upon this diſquiſition, let me lay it down as a preliminary, that a full, regular, and every way ſeemingly commendable pulſe furniſhes no material argument againſt the exiſtence of ſuch accretions. This is clearly proved by the noted hiſtory of a very common diſeaſe ſo accurately deſcribed by Boerhaave; where tho' there were great, and cloſe adheſions of the lungs to the *Pleura*, from the top of the *Thorax* to its bottom; tho' there was over and above a huge ſteatomatous tumor within the cavity of the *Thorax*, weighing near ſeven pounds, yet all along the pulſe appeared completely faultleſs

leſs till a very little before the afflicted nobleman's death *.

This admonition being premiſed, if in the caſe before us no other local cauſe of *Dyſpnœa* is clearly pointed out; if that ſymptom is not ſenſibly diminiſhed by any of the remedies found moſt generally effectual for that purpoſe in common practice; or by any means directed againſt other particular cauſes, that may moſt reaſonably be ſuſpected; in this preciſe ſituation a circumſpect practitioner, who believes that accretions of the lungs to the *Pleura* can ever hurt reſpiration, will think of them, were it upon no other account than to form his prognoſtic. He will, with reaſon, be the more inclinable to entertain a belief of their exiſtence, if he obſerves the patient's reſpiration to be performed chiefly by the motion of the *Thorax*, with little or no aſſiſtance from the diaphragm, and muſcles of the *Abdomen*:

* Atrocis rariſſimique morbi hiſtoria altera.

To

To which let me add, if there is a remarkable freedom from cough. This thought was ſuggeſted to me by what I obſerved above thirty years ago in the body of a boy about ſix or ſeven years old; in which the lungs were found cloſely adhering to the *Pleura* all round. This child died atrophical; and appeared to have no remarkable difficulty of breathing. But he had been confined to his chamber, and ſtirred very little, long before I was called; and kept his bed moſtly while I attended him. But, which appeared to me moſt extraordinary, he never was obſerved ſo much as once to have coughed during his illneſs. His voice was all along remarkably clear, and even ſhrill. Theſe particulars I remember very diſtinctly, as they then made a ſtrong impreſſion upon me, tho' I cannot now ſo clearly recollect the other circumſtances of his caſe. But that no more ſtreſs may be laid upon a ſtory told ſo imperfectly

perfectly, than it deſerves, let us conſider the nature of the thing.

Coughing is occaſioned by ſomething irritating the lungs, their *Bronchia* and veſicles; the diaphragm, the *Trachea*, and its larger branches; the *Larynx*; and, upon the account of its vicinity, the *Pharynx* alſo: to which let me add the *Oeſophagus*; and perhaps, in ſome caſes, the ſtomach. It is executed in the following manner. There is firſt a more than ordinary effort of inſpiration made; and particularly the diaphragm is ſtrongly pulled down, preſſing the liver and ſtomach before it, ſo as to make the *Abdomen* turgid. Upon which quickly ſucceeds a rapid contraction of the abdominal muſcles, forcibly drawing up the *Diaphragm*, and creating a ſudden and violent exſpiration, by which the air is expelled through the *Glottis* with a noiſe. See *Haller*'s *Elementa*, Vol. 3. p. 300. Now if the motion of the diaphragm is

remarkably confined by accretions of the lungs to the *Pleura*, as we have endeavoured to explain above, and at the ſame time there is no extraordinary *Stimulus* acting upon the parts which we have mentioned, there will be a remarkable abſence of cough. The execution of that action is then uncommonly difficult. And as it is partly ſubjected to the will, an uncommon *Stimulus* is requiſite to excite it; and that is ſuppoſed to be wanting. In the lamentable hiſtory above referred to*, there was indeed a cough from firſt to laſt, notwithſtanding the broad and cloſe adheſions of the lungs to the *Pleura*: but at the ſame time there was a ſtrong perpetual *Stimulus* to excite it, to wit, the compreſſion of the left lobe of the lungs into ſo narrow a compaſs, as to render it incapable either of tranſmitting blood from the heart, or of being inflated by air. But ſuch a compreſſion is the ſtrongeſt ſpur to

* Atrocis Morbi Hiſtoria.

urge

urge on a cough that can be conceived. For the air veſſels of that lobe muſt have been ſo ſtrongly ſqueezed, as to make the inſides of their walls come into mutual contact; which creates the ſame ſenſation and irritation, as if ſome foreign ſubſtance had got into their cavities; and rouſes the whole muſcular power of the *Thorax* and abdominal ſyſtem, in order to create a cough, and ſhake off the irritating cauſe.

But ſuppoſing that our practitioner is willing to uſe ſome means that may take off, or at leaſt mitigate the bad effects of adheſions of the lungs to the *Pleura*, the queſtion remains, what means of this kind can be found? Thoſe authors (and *Boerhaave* among the reſt) who acknowledge their extreme hurtfulneſs, declare the evils which they bring on abſolutely incurable. If therefore I ſhould ſet about directing any meaſures with this view, the paſſage in the poet might be applied to me, only by changing one word,

*Avia ſanandi peragro loca nullius ante*
*Trita ſolo.*

And therefore ſhould I miſs my road in an unknown country, I might hope for ſome grains of allowance, ſome excuſe for my error from the equitable and good-natured. Let us then ſet out.

If there really can be found no practicable method of removing in whole or in part the adheſions or accretions in queſtion, yet perhaps ſome ſhift may be made to render their effects not ſo grievous and intolerable, as they would otherwiſe be. To give ſome relief in deplorable circumſtances, to gain time, and even to render death eaſier, is doing no ſmall ſervice to our fellow creatures. And accordingly the great *Verulam*, in the work he valued himſelf moſt upon, warmly exhorts phyſicians to make it a part of their ſtudy how to bring about the *Euthanaſia exterior* *.

* De Augment. ſcientiar.

In

In the memorable caſe before mentioned, *Boerhaave* directed an inceſſant application of flannels moiſtened with warm decoctions of the moſt emollient vegetables to the ribbs, their cartilages and the *Sternum*; likewiſe ſteams of the ſame to be frequently drawn in by the mouth into the air veſſels of the lungs; with an humid lubricating diet. This method alone was attended with ſuch extraordinary ſucceſs, that all about the noble patient for ſome time entertained hopes of his recovery. If therefore it was ſo effectual in relieving oppreſſed reſpiration, where there was, beſides extenſive accretions of the lungs to the *Pleura*, a tumor weighing near ſeven pounds within the cavity of the *Thorax*, ſurely it cannot miſs of being ſerviceable where ſuch accretions are the ſole, or the principal cauſe of *Dyſpnæa*. By the conſtant application of warm relaxing moiſture, the ribs and *Sternum* muſt be rendered more pliable and obedient to the action of the intercoſtal muſcles;

muſcles; and the defect of the motion of the diaphragm be thereby, in ſome meaſure, ſupplied. As this method is perfectly ſafe, it ought always to be tried where other remedies fail. Nor is it improper, whatever the cauſes of *Dyſpnœa* may be, which is no ſmall recommendation of it.

As this is but a temporary remedy, and probably, unleſs conſtantly uſed, will produce no very laſting good effects, I have been at ſome pains to think of ways and means that may affect the principal cauſe, to wit, the accretions themſelves; which if they ſhould not be able totally to diſengage them, yet may render them looſer and more flexible; and ſo productive of leſſer inconveniencies. If this could be effected, it would be more than palliating, it would be ſubſtituting a leſs diſeaſe in the room of a greater; and perhaps with a proper regimen enable the patient to hold out years. A remarkable diminution of the *Dyſpnœa*, tho'

tho' falling conſiderably ſhort of perfect freedom of breathing, may be tolerably comfortable, and perhaps grow better in time. I ſhall lay before you what occurred to me in this reſearch.

Peruſing Dr. *Störk*'s treatiſes on the virtues of *Cicuta*, we find that ſchirruſes and cancers, tho' firmly adhering to the ribs and *Sternum*, ſo as to ſeem growing to them, and unmoveable every way, have been often cured by its extract. As the cure goes on, the tumors become more and more moveable; and at length are found perfectly looſe and free. Now while they are fixt firmly to the adjacent bones, it would appear there is ſome kind of adheſion of the membranes at their bottoms to thoſe, which cover the bones, pretty much of the nature of the accretions of lungs to the *Pleura:* and therefore I ſhould think it highly reaſonable to give that extract a fair trial, either by itſelf, or joined to other reſolvent and penetrating

netrating medicines, where it is apprehended that ſuch accretions make a conſiderable part of the diſeaſe.

I am the more inclined to expect relief from this remedy, becauſe I find it obſerved that there is ſometimes a viſcid humour about the *Pleura* and membrane of the lungs, which, it would appear, lays the foundation of the accretions. In a caſe recorded by *Bonetus* from *Salmuth*, to wit, the fourth of the nine already referred to, it is ſaid, "That in the Emperour *Ferdinand* the "lungs adhered to the *Pleura* by a viſcid "*Pituita*, which afterwards became *gyp*-"*ſeous**." And *Valcarengus*, a celebrated phyſician of *Cremona*, in his elaborate obſervations on epidemical diſtempers, relates, that upon opening the bodies of many, who died of malignant pleuriſies then raging, he found the external membrane of the lungs as it were plaſtered over with a viſcid ſubſtance, as with a

* Lib. 2. Sect. 1. Obſerv. 64.

new

new coat, which was ſometimes more than an inch thick. The patients expectorated very little, and breathed with difficulty. Their inſpiration was more uneaſy than their exſpiration *. But, as the extract of *Cicuta*, according to *Störk*'s obſervations, is found to be the moſt powerful reſolvent of all medicines yet known, may it not be tried in ſuch caſes? If the glutinous humour, cementing the accretions, be attenuated and diſperſed, may they not be rendered more flexible and yielding, and therefore at leaſt more tolerable, if not completely cured? May not the cohering membranes, made thicker through obſtruction, when they are become more permeable, become likewiſe thinner, and therefore more obſequious to the motion of the diaphragm? But this I only throw out as a hint at preſent; ſubmitting it to the candid and intelligent.

* Medicina rationalis, &c. Autore Paulo Valcarengo. Cremonæ, anno 1737, 4to. Vid. Sect. 2. cap. 3.

If I have any thing hereafter worthy of being offered to the public concerning this matter, I ſhall not fail to impart it.

Give me leave upon this occaſion, before I conclude, to offer ſome thoughts concerning the manner of making this extract. I am throughly convinced that the principal reaſon why it hath often proved ineffectual in our iſland is becauſe it has been made when the plant has been too young. There can be, I ſhould think, no material difference, in point of medicinal virtue, between the *Cicuta* growing ſpontaneouſly in *Germany*, and that found in the fields of *Great Britain*. The latitude of *Vienna* differs but three degrees and ſome minutes from that of *London*. Great cures have been performed with that extract in *Louvain* and *Bruſſels*. But theſe two cities are nearly in the ſame latitude with *London*. In garden plants, a peculiarity of ſoil, and manner of cultivation may produce a conſiderable diverſity of virtues in the ſame ſpecies. But, in ſuch as grow wild, the variation

variation of two or three degrees can, in my judgement, have a very inconſiderable effect, if any at all, in a general way.

The plant flowers in July; and its extract is directed by Dr. *Störk* to be made before the flowers open. But that is no reaſon why it ſhould be made two or three months ſooner. There is a wide difference between ſtalks and leaves new ſprung, and thoſe full grown. The one may be, and in ſome inſtances are, a mild agreeable ſalade, the other a nauſeous medicine. I therefore take it for granted that it ſhould not be made (without neceſſity) before the latter end of May at ſooneſt, as it doth not till then acquire its full viroſe odour; and therefore is not poſſeſſed of its full medical powers.

If it ſhould be then and afterwards too dry to yield juice enough, there can be no harm, (it will even be proper, and neceſſary) in adding water enough to the ſtalks and leaves while you are bruiſing them,

them, in order to get all the good out o
the maſh. The water will exhale while
the extract is making. By finiſhing the
evaporation in the ſun, which is then ſtrong
(if the weather be dry) an *Empyreuma* in
the preparation will be effectually avoided

In this manner, about the twentieth o
laſt May, I made, for my own ſatisfaction
an ounce of it, which perfectly anſwered
the characteriſtics required by *Störk*; t
wit, it was not black and tough, but o
a dark, greeniſh hue, ſomewhat crumbl
if dry enough, without *Empyreuma*, bu
of a very particularly diſagreeable ſmel
nearly reſembling that of houſe-mice.

*I remain,*

*Worthy Sir,*

*Your moſt reſpectful,*

*Obedient Servant,*

BRITISH MUSEUM

Lincoln,
June 15th, 1762.

MALCOLM FLEMYNG